

GEOMETRID NOTES, WITH DESCRIPTIONS OF NEW SPECIES.

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Eupithecia Russeliata, n. sp.—Expands 13–16 mm., palpi $\frac{1}{2}$ mm., general colour grayish white, antennæ not ciliated.

This species seems to vary in size and colour, but the markings remain distinct. Fore wings of a grayish white, with four distinct black patches on costa the beginnings of lines. The basal is indistinct and broken on the median vein, the intradiscal runs to inner margin in a series of waves, the discal spot is black, very large, round and prominent. The extradiscal line is rounded out below costa and opposite discal spot, appearing like dots on the veins and curving inwardly on vein 3 to inner margin. A pale broad band borders the extradiscal line, following the same course, then comes the marginal area, suffused broadly with gray, through which a narrow zigzag line runs to inner margin, fringe gray. Hind wings same colour as fore wings, with traces of five lines, the first three of which are shown only in dots on the inner angle, a small linear discal spot, then a broad dark dotted line accentuated on veins, rather irregular in its course, runs up to meet the extradiscal line of fore wings, beyond a broad pale band, then a dotted line taking the same course as the extradiscal, another pale band and marginal dots; fringe longer than on fore wings and grayish; body ash-coloured. Beneath paler than above, with the two extra bands very prominent, rounded out opposite discal spot and curving to about vein 5, then inwardly towards body. Hind wings the same except that the lines are more dotted on the veins, and the extradiscal makes a deep dip at about vein 4. This species seems to be quite widely distributed over the Atlantic region.

Co-types, 3 ♂s, 3 ♀s. Winchendon, Mass. (April 12), Dr. Russel; Framingham (April 23, '05), Mr. Frost; Taunton, Mass. (L. Swett), April 14; Newark, N. J. (Mr. Broadwell), April 6. I take pleasure in naming this species after my friend Dr. Russel, of Winchendon, Mass.

Eupithecia Brauneata, n. sp.—Expands 22 mm., antennæ very slightly ciliated beneath, palpi very short, general colour dark gray.

Fore wings dark fuscous-gray, a faint wavy inner band, then a broad dark band straighter on inner side than outer, on the outer has a projection opposite the discal spot, then runs irregularly to the inner margin. This is bordered with a pale band, then a narrow irregular line runs from costa,

just outside the linear discal spot, to the inner margin, a broad gray area, then a black patch runs down from the costa sharply angled outwardly, with a narrow line represented by dots running straight to inner margin. A pale band beyond this of the same shape, with a faint line running through the centre; the edge of the wing is bordered broadly with fuscous through which a zigzag white line runs to inner margin, ending in two white twin spots. Hind wings dusky, with traces of lines, intervenular dots on both wings, fringe, intradiscal and extradiscal lines are broad and black, discal spot prominent as above, hardly noticeable on the hind wings, as they have above two broad wavy extradiscal bands; and the edges of fore and hind wings have a dark border, which has a mottled appearance.

Types, ♂ and ♀, Mountain Lake, Va., June 14-21, 1907. The ♂ type is in Miss Braun's collection, the ♀, through her kindness, in my own.

Co-types, 2 ♀s, Mountain Lake, Va., June 14-21, 1907. Miss A. F. Braun, all in her collection.

This pretty and distinct species I have named after Miss Braun, who kindly sent me the specimens.

Eupithecia interruptofasciata (Packard).—This species was first described in the 5th Report of the Peabody Academy of Sciences, the types being two females, Texax (Belfrage), October and November. One male, Mass. (Sanborn) and two males, Albany, N. Y., (Lintner). This species Packard confused more than any other, and there were many labelled *interruptofasciata* in his collection which I knew by the localities could not be the types; these he must have added when he wrote the Monograph. After a search I discovered the two female types with the correct date and locality, and agreeing with the description, but no males could I find, and finally I remembered that in many cases Packard returned the types to the owners after describing them, so, as the locality was Albany, I surmised they might be in the Lintner collection. I wrote to my kind friend, Dr. Felt, and he replied that the two male types were there, as the Lintner collection had been kept intact, and gave me additional information of great value. As I had to go on business to Albany, I determined to look over the types, and sure enough I found them with the correct labels, as follows: No. 1833, ♂, *E. interruptofasciata* (Pack.), and beneath a second label, *Eup. miserulata* (Grote), as if he doubted the species. The other male was labelled 1833a, ♂ ? and

bore the same label as the first. After studying them carefully, I was surprised to find the two were different species, and both males, and also not conspecific with the two females at Cambridge, making three species under one name. The two female (Texas) types were alike, but the males were different species. The third male type (Mass.), Sanborn, I have been unable to locate, though it may come to light in some of the Boston Society of Natural History collections. The first male type, No. 1833 E, is quite large, has strongly-ciliated antennæ, long palpi, and pale outer extradiscal band strongly angulated below costa and prominent discal spot, wings dusky gray in colour. It comes rather close to my new species, *Eupithecia Grossbeckiata*, but is almost twice as large and with different markings. The second male, No. 1833a, is much smaller, of a dull gray, and markings much like the first, only the antennæ are simple and the palpi are very short. This is a male, though doubtfully labelled by Packard; so we have two males not conspecific, and, so far as I know, undescribed. I have retained the name *interruptofasciata* (Pack.) on the two female Texas types (Belfrage), Oct. and Nov., as they are conspecific and in Packard's own collection at Cambridge, Mass. I am not prepared to say what the two male Albany types are, except that at present they are undescribed so far as I know. Last fall I took the males of *E. interruptofasciata* in September, sparingly on the under side of White Pine limbs at Bedford, Mass., and they agree exactly with the Texas females, and have simple antennæ. I shall make my males co-types, and deposit one with Dr. Felt at Albany, so that he may have the species. Mr. Taylor sent me one some time ago, among some *Eupithecias* for identification, which I believe was bred by Dr. Fletcher on the Juniper; it is slightly more of a brownish cast, where mine are gray. Early in May I take a species, very close to *interruptofasciata*, yet there are marked differences, such as heavier extradiscal lines and no wave in it, but the species may be double-brooded and variable. This species, *Eupithecia interruptofasciata*, is easily told by the dashes on the veins from the extradiscal line, and the line itself, when near inner margin, is bowed inwardly towards the body. This I think settles the standing of this species, as I know every type but the Mass. (Sanborn). It is not common with me, as I only take about six specimens every fall, and the males are less numerous than females. I wish to thank Dr. Felt and Mr. Samuel Henshaw for valuable information and assistance, also Mr. Young, of Albany, N. Y.